

Koch, Kristine

From: Koch, Kristine
Sent: Friday, October 24, 2014 11:59 AM
To: Lisa Rodenburg
Subject: RE: quick question
Attachments: Portland Harbor Surface Water Data - PCBs.xlsx; 2011-08-29_DF RI_Sec5.3_Map 5.3-1a-c.pdf

Lisa - Here is a long response.

You are reading a document that EPA has not approved and we are modifying the text because we disagree with some of the analysis and conclusions. I'm sending along the data for PCBs in water samples so you can make independent interpretation of the information. I'm also sending a map so that you can see where each sample was taken. Below is a discussion in the revised RI that may help you in understanding the data. I don't see any indication that there is PCBs at Siltronic. The data seems to indicate Willamette Cove. It may be overland runoff - this is the site of an old shipyard. Let me know if you think otherwise or need further information.

A total of six transect locations located at RM 2, mouth of Multnomah Channel, RM 3.9, RM 6.3, RM 11 and RM 16 were sampled; due to flow conditions and sample event objectives, not all transects were sampled during all sampling events. Transects were sampled in three ways: as a vertically-integrated equal discharge increment transect [EDI-VI]; as a near surface equal discharge increment transect and near bottom equal discharge increment transect pair [EDI-NS/NB]; and as a vertically-integrated, three segment (East, Mid-channel, West) transect [VI (E,M,W)] . At three locations (W010, W014, and W020) single point vertically-integrated samples were collected during Round 2A low flow conditions to support the baseline human health risk assessment. The remaining Round 2A single-point samples were collected in support of the baseline ecological risk assessment as near bottom samples. Round 3A single-point samples were collected as near surface and near bottom pairs. Siltronic collected peristaltic single point samples, and NW Natural and the City of Portland collected surface water grab samples. Not all samples were analyzed for every analyte.

A total of 23 peristaltic sample locations and seven peristaltic and XAD stations were sampled during the Round 2A low flow conditions and six peristaltic and XAD stations were sampled during the Round 3A low flow conditions (Table 5.4-2). Twenty single-point peristaltic stations (W001-W004, W006-W010, and W012-W022) and four single-point peristaltic and XAD stations were sampled (W013, W015, W016, W018) during each of the three Round 2A sampling events (Table 5.4-1). Both peristaltic and XAD samples were collected for all the low flow transect samples in Round 2A. Three Round 2A transect locations (W005, W011, and W023) were collected during low flow conditions as EDI-VI. Four Round 3A transect locations (W005, W011, W024, and W027) were collected as EDI-NS/NB and the other two Round 3A transect locations (W023 and W025) were collected as VI (E, M, W). Replicates were collected based on a 5% target frequency at the following single-point stations: W013 (peristaltic and XAD) and W016 (peristaltic only) during November 2004; W013 (peristaltic and XAD) and W002 (peristaltic only), W004 (peristaltic only), and W016 (peristaltic only) during March 2005; and W002 (peristaltic only) and W016 (peristaltic only) and W013 (peristaltic and XAD) during July 2005. A total of 92 peristaltic samples and 38 XAD samples were collected to represent the low flow conditions of the river (Table 5.4-3). As summarized in Table 5.4-4, samples collected during this flow regime include:

- 61 peristaltic and 15 XAD single-point, near-bottom samples;
- 8 peristaltic single-point, vertically-integrated samples;
- 9 peristaltic and 9 XAD transect, EDI-VI samples;
- 2 peristaltic and 2 XAD east-channel VI transect samples, 2 peristaltic and 2 XAD mid-channel VI transect samples, and 2 peristaltic and 2 XAD west-channel VI transect samples;
- 4 peristaltic and 4 XAD transect, EDI-NS samples; and
- 4 peristaltic and 4 XAD transect, EDI-NB samples.

Storm water-influenced flow conditions were only sampled once during Round 3A (November 2006). Both peristaltic and XAD samples were collected at all six transect locations (W005, W011, W023, W024, W025, and W027) and 12 single-point stations (W026 and W028-W038) during this sampling event (Table 5.4-1). Four of the transect locations (W005, W011, W024 and W027) were sampled as EDI-NS/NB. The other two transect locations (W023 and W025) were sampled as VI (E, M, W). All the single-point samples were collected as NS/NB pairs. Replicates were collected at single-point stations W033 (peristaltic and XAD) and W036 (peristaltic only). A total of 42 peristaltic samples and 40 XAD samples were collected to represent the storm water-influenced flow conditions of the river (Table 5.4-3). As summarized in Table 5.4-4, samples collected during this flow regime include:

- 14 peristaltic and 13 XAD single-point, near surface samples;
- 14 peristaltic and 13 XAD single-point, near-bottom samples;
- 2 peristaltic and 2 XAD east-channel VI transect samples, 2 peristaltic and 2 XAD mid-channel VI transect samples, and 2 peristaltic and 2 XAD west-channel VI transect samples;
- 4 peristaltic and 4 XAD transect, EDI-NS samples; and
- 4 peristaltic and 4 XAD transect, EDI-NB samples.

High flow conditions were sampled twice during Round 3A (January 2006 and January-March 2007). In January 2006, peristaltic and XAD samples were collected at three transects (W005, W023, and W024). Due to safety concerns and sampling challenges associated with the extreme high flow conditions, the January 2006 samples were collected mid-channel at a single fixed depth for each of the three transect stations that were sampled. No vertical integration was performed. One replicate was collected at W023 for the peristaltic sample only. Both peristaltic and XAD samples were collected at all six transects and 12 single-point stations (W026 and W028-W038) during the January-March 2007 sampling event. Four of the transect locations (W005, W011, W024 and W027) were sampled as EDI-NS/NB. The other two transect locations (W023 and W025) were sampled as VI (E, M, W). Stations W023-M and W025-M were first sampled in January 2007, and then re-occupied in March 2007 (W023-M2, W025-M2) due to changing flow conditions. All the single-point samples were collected as NS/NB pairs. NS and NB replicates were collected at single-point station W033 (peristaltic only) during the January-March 2007 event. A total of 46 peristaltic samples and 43 XAD samples were collected to represent the high flow conditions of the river (Table 5.4-3). As summarized in Table 5.4-4, samples collected during this flow regime include:

- 13 peristaltic and 12 XAD single-point, near surface samples;
- 13 peristaltic and 12 XAD single-point, near-bottom samples;
- 2 peristaltic and 2 XAD east-channel VI transect samples, 4 peristaltic and 2 XAD mid-channel VI transect samples, and 2 peristaltic and 2 XAD west-channel VI transect samples;
- 4 peristaltic and 4 XAD transect, EDI-NS samples; and
- 4 peristaltic and 4 XAD transect, EDI-NB samples.

Uncertainty associated with the surface water data is related primarily to the representativeness of the analytical data set. The surface water sampling program was designed to capture representative flow conditions and locations over time. However, only a limited number of surface water samples during a limited number of conditions could be collected over time. In addition, sampling protocols evolved over time based on the assessment of previous efforts as well changing river flow conditions. This evolution included some changes in both sample locations and sampling methods. While these changes were intended to more fully characterize the site, they also make the compilation and combination of these data more complex. For example, single point stations occupied in round 2 were sampled on multiple occasions. However, during round 3 the stations were shifted into deeper water to accommodate the round 3 modification to collect both near-bottom and near-surface samples simultaneously or relocated at EPA's request. Also, while the six transects were sampled in almost all the sampling events, sampling methods were modified over the course of the sampling program. While the data evaluation compares concentrations at the river transects, there is uncertainty associated with the changes in sampling methods as well as the unavoidable flow condition differences between specific sampling events.

This complexity prohibits a quantitative statistical evaluation of temporal and flow variability in surface water. Further, the limited number of stations and samples preclude definition of the magnitude and extent of the surface water contamination in all localized areas. Such locations may need to be addressed further in remedial design. Nonetheless,

the data collected and presented here met the objectives of the sampling program and are sufficient for the purposes of the site-wide RI.

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-----Original Message-----

From: Lisa Rodenburg [mailto:rodenburg@envsci.rutgers.edu]
Sent: Friday, October 24, 2014 11:25 AM
To: Koch, Kristine
Subject: Re: quick question

Kristine,

the sum of PCB concentrations in the water column spike right at river mile 6.7 around Willamette cove. this is near Siltronic, but in my reading of the documents for that site I did not see PCBs listed as a major contaminant. any idea what is the big source in this area?

thanks,
Lisa

On 10/24/2014 2:04 PM, Koch, Kristine wrote:

> Lisa - there are no outfalls in Willamette Cove. I've attached maps from the RI Report that show the location of the outfalls. Let me know if you have any questions about them.

>
> Regards,
>
> Kristine Koch
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> -----Original Message-----
> From: Lisa Rodenburg [mailto:rodenburg@envsci.rutgers.edu]

> Sent: Thursday, October 23, 2014 12:16 PM
> To: Koch, Kristine
> Subject: quick question
>
> Kristine,
>
> quick question. what kind of outfalls are in the Willamette cove area (RM 6.7)? at the time of the water sampling,
were there any sewage outfalls or CSOs in that area?
>
> do you have a map of the CSOs and other outfalls in the superfund site area that you could share?
>
> thanks,
> Lisa
>

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NOTE MY NEW PHONE NUMBER: 848-932-5774

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